CHAPTER 2: THE LITERATURE REVIEW OF THE EFFECTS OF MOTHER TONGUE ON MATH AND SCIENCE INSTRUCTION

Introduction to the Literature Review

The question of which language should be used in Haitian classrooms has long been a controversial issue because this topic not only has an educational implication, but it also has historical, cultural, and social facets. Failed attempts at implementing educational reforms have only aggravated the disagreements as to which language is most appropriate and effective to serve as an instructional tool in Haitian classrooms. Moreover, the research on this subject has yet to convince the general public of the true benefits of using one language versus the other.

Many theories have been suggested as to the most effective use of language as an instructional tool in the classroom. Although many have broached this topic, this review emphasizes the issues of teaching in a language that is not a child’s first language and the implications involved in the use of a foreign language as the medium for instruction, the issues of the use of language as a means to discriminate, and the issues with the attitudes towards the use of specific languages including the political and social background leading to such attitudes. Although some of these concerns have been discussed in various contexts, this literature review will focus on how they have impacted the Haitian classroom.

In most cases, Haitian students enter schools at the age of about five or six fluent in their mother tongue which is Kreyòl. Although some Haitians will argue that the language spoken in their homes is French, thus this constitutes their first language, the majority of Haitians do not have the same experience (Degraff, 2007). Note that Haitian Kreyòl is spelled in two different ways: the “Kreyòl” spelling is what the word looks like in the actual Haitian language and the “Creole” spelling is the French and English spelling of that language.
It is also worth noting that when referring to the group of languages called creole the word “creole” is not capitalized except when referring to Haitian Creole. (Prou et al., 2010). In his 2010 publication *Creole and Education in Haiti*, Dejean affirms that:

To assert that Haiti is a French-speaking country is to play on the confusion created by French being an official language. (Creole was made a co-official language by Article 5 of the 1987 constitution.) French is official due to the clout of a few members of the country’s elite (1918 constitution, Article 24; 1987 constitution, Article 5). This notwithstanding, Creole is the language understood and spoken by everyone born and raised in Haiti (between eight and nine million people) (p. 7).

These students spend the extent of their academic life, building and developing technical skills that will determine not only academic success but ultimately success beyond school, in a language that is foreign to them. Because proficiency of language has such a considerable implication on acquisition of specialized skills, such as understanding of complex math and science concepts, it is understood that the choice of language to use as a medium for instruction is crucial to students’ success (Degraff, 2016).

Research has demonstrated that the failure to use mother tongue as a medium for at least the fundamental years has a lasting and detrimental impact on students’ cognitive competence and emotional stability (Dutcher, 2004). It is through language that a child may express his/her understanding of the world around him/her. It is through language that a child asks for clarification when an idea is not well understood.

Moreover, language is also used in demonstrating understanding of complex concepts. Vygotsky, Hanfmann, and Vakar (2012) contributed much data to the theories of language development. When discussing these theories, Wells (1986) stated that humans develop their mental processes by working with others, by collaborating with other humans, using cultural apparatus of which language is the most significant.

In the case of Haiti, students are expected to express themselves and acquire knowledge in French, which is a language that is foreign to them. Although 10 percent of school-aged children in Haiti grow up in houses in which both French and Kreyol are naturally acquired, that is not the case for the other 90 percent of children (Dejean, 2010). Furthermore, as Gibson wrote in 2011:
If these children’s previous language experience [Kreyòl] is not taken into account when they start school, and if they are expected not only to learn a second language but to learn *in it* as well, it is hardly surprising that without focused English [French in this case] language support in all subjects they may start to fall behind their peers who are operating in a language they have been familiar with since birth (p. 10).

The students in Haitian classrooms are expected not only to become experts in a second language that they only practice at school, but they are also simultaneously supposed to assimilate technical information to move forward in their academic career using this language in which they lack mastery. Obviously, this creates a snowball effect as the foundational concepts on which students may build an understanding of more complex concepts are never seized (Hebblethwaite, 2012). In this view, it may be said that the refusal to use Kreyòl, the only language that the greater number of Haitians speak and understand, as the medium of instruction in schools accounts for the major nonsuccess of general education in Haiti. (Dejean, 2010).

One way to start seeking solutions to the failure of Haiti’s education system is to look at data from other countries that have dealt with similar linguistic issues. Research from first language and bilingual programs from such countries as Peru, Bolivia, and the United States have also shown that students are better off when they acquire knowledge in their mother tongues and continue to use this language throughout their lives. In the case of Peru, students begin the first years of schooling in their native tongue. Then they are introduced to Spanish as a second language while students continue to use their mother tongue (Bühmann & Trudell, 2008).

In this sense, learning of new material is not deferred until students become proficient in the second language. Students are therefore “not expected to adopt a foreign, world language such as English as their primary one, but to use it as their secondary language in order to access advanced education and other resources made available by those world languages” (Dejean, 2010, p. 13). That is not the case in Haiti, where students are required to acquire technical knowledge and skills in a language that is not native, French. Furthermore, as soon as children enter school, they are taught that the use of Kreyòl is frowned upon and, in some cases, even forbidden. Thus, these children are to leave Kreyòl behind as soon as they enter school. They are expected to communicate effectively and interact in French for the duration
of the day without being able to ask for clarification if need be because they are not allowed to use Kreyòl in school.

As discussed in the book *Theories of Second Language Acquisition*, students may begin to encounter some difficulties stemming from the theory that acquiring language skills has a lot to do with social interactions to arrive to mastery level as advanced by Vygotsky’s Social Cultural Theory (Lantolf, Thorne, & Poehner, 2015). If the only interaction the child has with French is through the classroom, it is difficult for him to master this language as all his other social interactions are done in his native language, Kreyòl. Furthermore, in the case in which a teacher is not allowed to explain a difficult concept to a student using Kreyòl, the language he understands well and has experience with, the student is expected to assimilate new concepts while also trying to learn the language being used to advance this new concept. Thus, the issue of language plays a crucial role in the catastrophic success rates of the national exams taken by students at the end of the sixth, ninth, twelfth, and thirteenth grades. “In 2003, for example, only 21.99% of all those enrolled in school passed the *rhétorique* exams (12th grade exit exam) and 17.75% passed the *philosophie* exams (13th grade exit exam)” (Hebblethwaite, 2012, p. 268).

Beyond the issues impacting the education system, some of the effects of the use of French as the medium for instruction in Haiti have provoked systemic issues that transcend all layers of society (Hebblethwaite, 2012). Although Haiti has two official languages, only one serves as the language for any and everything official, to include government documents, announcements, and guidelines. “Such French-only policies, at least at the level of the written record, effectively create a situation of ‘linguistic apartheid’ in the world’s most populous Creole-speaking country” (Degraff, 2007, p. 101). The majority of Haitians are not able to effectively comprehend the workings of the country’s politics because of a lack of mastery of the language in which business is done. This issue of language also excludes this majority from participating in the political process.

Since French is also used as the language for business in Haiti, it could be postulated that the majority of Haitians are also excluded from this world. To experience social mobility, one must be fluent in French or be disregarded as uneducated, thus the fate of ninety percent of the population. “The French educational language policy is a strategy for keeping the masses
at their low station and for keeping job opportunities within elite families” (Hebblethwaite, 2012, p. 275).

**Theoretical Framework**

Organizations are made up of a complex structure that relies on the collective efforts of humans making up a system, the operations it utilizes, and the output it generates. As such, organizations build their efficiency based on their systems, operations, and capacity. In this paper, the researcher analyzed, from a theoretical perspective, a chosen site for the objective of understanding the behavioral relationships, structure, and technology of the research site based on the following perspectives: systems theory, action science, and change theory.

**Site Analysis Based on Language and Its Effects on Learning**

“While there are many factors involved in delivering quality basic education, language is clearly the key to communication and understanding in the classroom” (Benson, 2004, p. 1). This would explain why so many students in Haiti are failing. Students are taught in French, which is a foreign language to about ninety seven percent of the Haitian population. As Desai (2012) advances:

> Language plays a crucial role in learning as it is through language that children develop ideas or concepts of the world around them; it is through language that children make sense of the input they receive in the classroom from the teacher and the written texts; and it is through language that children express their understanding of what they have learnt from this input. (Desai, 2012, p. 1)

In Haiti, students are presented concepts in a foreign language and are expected to grasp these concepts. The reality is they memorize the information presented and seldom develop a strong understanding of what they are studying. This process has had a terrible impact on the education system in this country as students lack the basic foundation for them to be successful in school.

Furthermore, even when students would like to seek help, because of lack of mastery in the language used in school, it would be difficult for them to communicate their needs. As Vygotsky advanced, language is a tool for social interaction so that if students are unable to
effectively communicate, they will not be able to acquire much needed skills. This study relates to Vygotsky’s theory on language in that it aims to postulate any significant differences in student interaction and impact on communicating needs when French and Kreyol are used in the classroom as students will have the opportunity to note the difference in their experience with these languages in terms of facilitating acquisition of concepts.

This project aims to highlight the importance language plays in education, because it is through language that students are able to process thoughts and associate old notions in building new learning. In the view of Chomsky, the environment plays an important role in acquisition of language in that the more a child hears a language been spoken the more he/she assimilates meaning to words and builds vocabulary (Chomsky, 1997). Chomsky’s views on language acquisition relate to this project in that he argued that the most effective learning happens when people learn in their native tongues as they discern nuances that they would not in a language that they are less familiar with (Chomsky, 1997).

**Site Analysis Based on Systems Theory**

In general terms, a system, an organization may be described as a composite of interacting components in conjunction with the included relationships that make it up and that create an entity, a sort of complex machine that maintains certain margins. “Organizations have been conceived as behavioral settings for human interaction, fields for the exercise of power, systems of institutionalized incentives that govern individual behavior, or socio-cultural contexts in which individuals engage in symbolic interaction” (Argyris & Schon, 1996, p. 7). Systems theory provides a means of analytically describing and explaining an organization’s structure.

Upon analysis, the chosen research site seems to have a goal-seeking component in which the various parts work in tandem towards a common goal. “Social organizations seek multiple goals, if for no other reason than that they are composed of individuals and subunits with different values and objectives” (Kast & Rosenzweig, 1972, p. 450). One of these goals is to promote best teaching practices to ensure all students have the opportunity to reach their full academic potential. Every part of the system from the workshops set up to train teachers, to the activities set up for use with the students, demonstrate the desire to implement best
practices. This aforementioned desire to use best practices at the research site was one of the reasons that it was chosen as the research site.

In terms of this research project, the goal-seeking component with which the organization functions provided a positive framework on which to implement the intervention. However, it was important for the researcher to understand the inner workings of the organization as to be clear on the specific functions of each part of the organization and how these various parts worked together. As such, it was crucial that teachers, administrative staff, and board members were made aware of the implementation of the intervention as to lessen the disruptions it may have caused to the usual functioning of the institution. Researcher met with teachers who provided assessment instruments to be used in the interventions, administrative staff to create a schedule for the intervention that would not interfere with state exams, and with Board of Directors to ensure that intervention remained ethical and harmless to participants.

**Site Analysis Based on Action Science**

An organization’s success depends on how well it improves its business operations over time. Ideally, this continuous progress relies on how well this organization learns from its mistakes and how well it adapts to the evolving world around it. According to Argyris and Schon (1996), our actions are governed by two theories.

The espoused theory is the one we speak of if we are asked how we would react to a specific situation. It is the theory that we express implicitly, our intention. The other approach we take to our actions is the theories-in-use. It is what we actually meant to do, the actual way we reacted to a situation. Argyris and Schon (1996) state that we will become much more effective and efficient in our organizations if we find a way to create harmony between these two theories in our actions.

At the research site there exists a connection between the espoused theory and theories-in-use. The intent of many decisions made at the research site supports the outcome expected. One such example is in the care taken to ensure that the material available to students is written in a manner that both honors the intricacies of the language but also respects Haitian cultural nuances.
Furthermore, the intention and actions of individuals contribute to organizations’ practices. Employees espoused theories and in-use theories affect operational systems within an organization.

An organization’s learning system is interdependent with the theories-in-use that individuals bring to its behavioral world. Individual theories-in-use help to create and maintain the organization’s learning system; this system, in turn, contributes to the reinforcement or restructuring of individual theories-in-use (Argyris and Schon. (1996, p. 18)

Thus, the research site has taken strides to create an environment in which employees are encouraged to keep an open mind as it plays a major factor in promoting an environment of continuous learning and improvement of operational systems. Employees have many opportunities to express their thoughts. Whether it is through evaluation forms at the end of workshops or through the various “brase lide” (sharing ideas) sessions, the research site aims to make staff feel empowered to share information that may help to improve services offered.

**Site Analysis Based on Change Theory**

Change management is sometimes one of most significant obstacles to deal with when managing an organization. The key is to create an environment that does not rely on the influence or actions of one individual to deal with transitions, operations, and issues. Dr. Eoyang’s (1997) book discusses self-organization as a means of dealing with disruptions to an organization’s normal operation. In her theory on complex adaptive systems, Dr. Eoyang recognizes four quadrants that determine the level of effect of interactions and variances on the various agents within an organization.

Many of the challenges that have surfaced at the research site have been dealt within Dr. Eoyang’s self-organization quadrant one as they have been met with a high level of differentiation and high level of transfer within the organization, at times, creating conflicts within the organization. When met with a problem, the organization sets up discussion sessions that often lead to concrete action plans to implement ideas discussed. When the project was introduced to the research site’s Board of Directors, it was important for the researcher to look into the various interactions of agents within the organization’s system as
suggested by the self-organization systems theory in order to predict how these agents would react to the changes the intervention would create within the established structure and to adapt to these reactions and ensure that the data collected would not be influenced by the agents within the organization.

Organizations are made up of a complex system that relies on the interactions of its staff, its operations, and its output. Theoretical perspectives aim to provide some understanding of the structure of such a complex system. As such, the structure of the research site was analyzed using system theory, action science, and change theory. Analysis of this site provided information as to how well the organization deals with change as it empowers its employees to provide ideas and suggestions on creating and implementing change. This research site also displays a good balance between the espoused and theories-in-use leading to the creation of a community of continuous learning within the organization. This organization, as a community in turn, focuses on common goals that help to promote, facilitate, and implement organizational goals.

**Review of Research Literature**

**History of Language in Haiti**

In order to understand the importance of the language issue in Haiti it is important to revisit the history of language and the impact it has had on all aspects of Haitian society. The Haitian population consists of a majority of monolingual Kreyol speakers and bilingual French and Kreyol speakers; the latter belonging to the elite class of Haiti (Gibson, 2011). Although both of these languages are legally official languages of this country, one, notably the French language, is used as the language of power while Kreyol is seen as the language of the masses (DeGraff, 2007).

**Political and Economic Impact**

Haiti has had a long history of using the French language as a means to exclude a portion of its population from what are considered higher social ranking political and economic activities. “The negative attitudes expressed by many members of the French-speaking Haitian minority for the monolingual Creole-speaking majority originates in colonialism,
class ideology, and race-based slavery in Saint-Domingue (a French plantation colony from 1697 until 1803)” (Hebblethwaite, 2012, p. 257). In fact, as with many other aspects of Haiti’s history, the language issue stands out even more in that, unlike other Latin American countries in which the indigenous languages are spoken by a minority of people, Kreyòl is spoken by the majority of the population of Haiti.

Hence, the crucial role that language plays in all facets of Haiti’s inner workings. Some proponents of the use of French agree with the use of the language as a means to keep the masses stagnant while opportunities continue to be available to the minority French speakers of the country (Hebblethwaite, 2012). Furthermore, the use of French and the exclusion of monolingual Kreyòl speakers create an oppressive environment in which the majority of Haitians do not possess the skills to express themselves effectively for lack of mastery of the French language (Hebblethwaite, 2012).

Long before its independence, language in Haiti was used as a tool for oppression. As clearly stated by Gibson (2011), language, being the primary means of communication, serves, as well, as a means to control through the swaying and compelling of judgement and mindsets. The French used many tools, including language, as a mechanism to grandstand predominance, thereby brandishing French as the language of authority while Creole served as the tool of the lesser people and thus introducing the linguistic discrimination, aforementioned, which still exists today in Haiti. As Gibson (2011) attests, the inability of Haiti’s generals after the independence to disburden the country of the French way of executing and implementing, but more importantly of the French language, gave way to the hierarchy that has been so detrimental to Haiti’s development, specifically in terms of educating its inhabitants. In such a way, French became and remained until the 1980s the official language of Haiti. More recently, the constant political instability in the country since 1986, with the fall of the Duvalier regime, also contributed to the ineffective implementation of any reform to improve the education system (Gibson, 2011).

Today, the supporters of the continuation of a French-only system in Haiti claim that Haitians will isolate themselves from international communication if Creole (Kreyòl) were to have the same standing as French in its society. What is implied, but not directly stated, is that such a system aims to keep 9,500,00 Haitians sequestered from participating in any viable economic or political activity in their own country (Hebblethwaite, 2012). The antiphon to this point is
that Kreyòl is a viable language as all others are and that not every Haitian needs to speak an international language in order for Haiti to do business internationally. Only a few designated individuals need to be able to communicate in international languages in order to do business with other countries (Hebblethwaite, 2012).

What the previous view seems to discount is the direct link between Haiti’s education system and its ongoing impetuous contentions, specifically in the use of French as a means to exclude the masses. The people of Haiti understand that mastery of the French language almost guarantees their participation in the socio-economic development of the country (DeGraff, 2007). It is also understood that the education system is set to marginalize the majority of Haiti’s inhabitants in that students acquire low levels of literacy and experience unmeasurable stress from the devaluation of their mother tongue and their self-worth (DeGraff, 2007). These two aforementioned components of the fabric that makes up this country only add to the buildup of frustrations that often leads to many violent conflicts within the society. What is further demoralizing is that, as stigmatized as Kreyòl is in this country, the people cannot fathom that its use as an instructional method could help them to acquire the so-desired French language, hence affording them the opportunity to participate in its economic growth (DeGraff & Ruggles, 2014).

Thus, Haiti finds itself in a unique position in that the one thing that could possibly ensure the advancement and development of its people is the one thing that is thought to be so inutile, the Kreyòl language. Spears (2010) asserts that:

The preceding points are especially important to make because many people, educators included, mistakenly believe that Creole, as other stigmatized languages, cannot be used in education because it has no grammar, and that it cannot be studied because it consists of nothing more than mistakes and corruptions of the related colonial language. (p. 3).

Apropos of development, language plays a primordial role as it serves as the tool by which education is disseminated. In the Human Development Approach, as per Carlson et al. (2012), “factors such as health and education are effective indicators of a country’s economic well-being” (p. 9). It could be advanced that the dismal economic standing of the country may have a great deal to do with how well the education system is working there (DeGraff, 2007).
The education system, as it stands, may not provide the necessary knowledge and skills for graduates to enter the workforce in positions that may have a meaningful impact on the economy. Without the necessary knowledge and skills, a great number of graduates may be deadlocked into entry-level, low-paying employment that contribute to the vicious cycle of poverty that exists in this country. “Using mother-tongue instruction, or Creole as a medium of instruction, in Haitian schools would reduce Haiti’s illiteracy rate, creating economic development for the nation” (Gibson, 2011, p. 23).

**Educational Impact**

UNESCO’s 2000 report on Haiti written by Jules, and Panneflek, headed by then the UNESCO representative in this country, Hadjadj, provides recent statistics on the status of the education system of Haiti for a period of about 20 years (Hadjadj, 2000). As this report indicated, there are two major events that have marked the Haitian education system in terms of reforms. The first happened in 1979 with the Bernard Reform. Then Minister of Education, Joseph C. Bernard, launched several meetings throughout the Caribbean and his work might have led to the introduction of Creole as one of the official languages in Haiti as per the 1987 Constitution, but, more noteworthy, it proclaimed Creole as a viable language for instruction.

According to the Bernard Reform (Dejean, 1993), Creole was to be used as the primary language of instruction for the first four years of elementary school while French was to be taught orally as a subject first and in written format during the third year of schooling. In this optic, Bernard’s goal was to provide Haitians a wider access to education and to promote for effective learning, specifically in monolingual creole speakers which represent about ninety percent of the population. However, the political and social instability that prevailed during this period kept the Bernard Reform from ever being concretely implemented throughout the country. “This instability, which also resulted in a lack of continuity in government policy, is illustrated by the large number of occupants of the Ministry of National Education: 23 Ministers in 20 years!” (Jules & Panneflek, 2000, p. 13).

Other issues with the use of Kreyòl specifically in the academic arena arose as a result of many people, including educators, thinking that Kreyol, like other stigmatized mother tongues, is not suitable for educational advancements due to its presumed deficient grammar
and represent mere broken versions of colonial languages (Spears, 2010). However, Michel Degraff, linguist and researcher, has been researching and gathering valuable data demonstrating the worthiness and benefits of using the Kreyòl language as a means to improve the Haitian education system (Degraff, 2013). With such programs as the MCLC Community Learning Center (MCLC) in La Gonave, Haiti, Degraff is gathering data that proves that the use of Kreyòl absolutely promotes effective learning in Haitian students.

The MCLC began in 1996. It is different from other Haitian schools in that it uses Kreyòl as the medium for instruction and textbooks through the third grade, at which point French is introduced to students as a second language. Data gathered from the MCLC demonstrate, among other improvements, a significant growth in percentage of students that passed the 6th grade National Exam, from 35% in 2011 to 78% in 2014 (Friends of MCLC, 2014).

The ideology that perpetuates the inferiority of indigenous languages or mother tongues is so strong that even when data has been collected establishing the benefits of mother-tongue instruction, parents may still not agree with using native language as a medium for instruction. This was reported in a study on mother tongue education in Bolivia where parents demonstrated pronounced disagreement with teaching literacy in Quecha, the indigenous language, as they believe that this would hinder their children’s acquisition of Spanish (Danbolt, 2011). This accurately depicts the experience of many schools in trying to establish Kreyòl as a means to teach literacy in Haiti. It is certain that further data, such as that from the MCLC, needs to be collected in order to bring increased awareness to the viability of the Kreyòl language as an academic tool. However, a starting point is to look at the research from other countries and the results they have yielded.

**Research on Mother Tongue as an Effective Learning Tool**

In order to speak to the role that mother tongue may play in the improvement of education in Haiti, it is important to review research from linguists and from other countries that have used mother tongue to make their educational systems more effective. In this sense, the literature may serve as a framework on which to gather data to substantiate findings from this study.
Use of Mother Tongue Yields Superior Academic Achievement

Research from such authors as DeGraff (2013), Trouillot-Levy (2010), and Dejean (2010) have shown that Kreyòl is a viable language that has orthography, grammar, etc. and is adequate and effective for use in education. Programs like the National Science Foundation that funded MCLC demonstrate significant learning improvements when students learn to read in their mother tongue (DeGraff, 2013). According to the 2004 EFA Global Report (Benson, 2004), teaching a child to read in a language that is familiar helps to connect sounds with symbols and thus creates an opportunity to use psycholinguistic deductions to also make sound and meaning connections. This enables a child to acquire new concepts without having to wait on second language acquisition to grasp understanding of this concept.

If, for example, a Haitian student learns a basic concept in French when he has yet to acquire the French language, it may take years before he actually understands this concept. He/she may have memorized the concept, but is unable to explain the meaning behind it. However, if he/she learns the concept in Kreyòl, he/she is more apt to understand said concept and to transact meaning with the instructor as he/she is able to interact with classmates and instructor due to comfort with the language being used as medium for instruction. As was demonstrated by the research study in Peru, when students learn in their native tongues, they are more engaged and participate more actively in the learning process (Bühmann & Trudell, 2008).

Achievement in Second Language is Comparable to that in First Language

Research has shown that once basic reading skills are acquired in mother tongue and that students can express themselves orally in second language, the transfer of acquired concepts happens organically without an instructor having to teach the same concepts in second language (Cummins, 1991). Research from studies such as that of Modiano in Mexico (1973), and Fanfuwa (1975) in Yoruba primary schools demonstrated that students who acquired reading skills in mother tongue surpassed the performance of monolingual second language students. Also, students who began school with a strong base in their mother tongue were better equipped to take on learning in the school language and were able to transmit knowledge from home to the classroom effectively (Benson, 2004).
Furthermore, bilingual students seem to demonstrate increased pliability and resilience in their thought processes as they have the ability to comprehend and analyze information through two different languages. Another strong indication of acquisition of a concept is the ability to be able to explain this concept in more than one language. Thus, bilingual students have the upper hand when it comes to being able to express themselves in two languages (Cummins, 2000a).

Research, as indicated by Cummins (2000a), has shown that how well a student learns in his/her mother tongue can serve as a predictor of how he/she will achieve in another language. In his 2000 publication, Cummins concludes that first and second languages actually helped promote each other’s development as long as the students had the flexibility to use either language as need be (Cummins, 2000b). In 1993, results from a model tested in Mali called Pédagogie Convergente also yielded concrete results demonstrating that the use of the mother tongue along with a second language had a positive impact on students’ achievement (Bühmann & Trudell, 2008). After six years of using this model, in which students began their studies in their first language and four to five years later half of the teaching was done in mother tongue and the other in French, results were significant enough to lead other elementary schools to begin to use the Pédagogie Convergente as well. Further research using this model also demonstrated that the use of the two languages had a direct and positive impact on the acquisition of mathematics skills (Bühmann & Trudell, 2008).

The Pédagogie Convergente (1993) model of Mali includes guidelines that are reminiscent of the Bernard Reform in Haiti. It is based on the same premise that students should begin their schooling in Kreyòl, the mother tongue, and that by the fourth-grade students would start learning in French. Unfortunately, without the proper economic structure and political support for this reform, Haiti has not been able to show any concrete results using this model. The 2008 UNESCO report also provides insights into some of the difficulties in implementing such a model which may certainly bring some support in seeking effective and efficient solutions to Haiti’s educational problems. One of the major lessons learned in this study and in others, such as the vernacular education model used in Papua, New Guinea, is that without political, community, and the educational establishments’ support, education reform will likely be ineffective (Bühmann & Trudell, 2008).
Use of Mother Tongue Increases Student Participation in the Learning Progression

One of the points noted in the Friends of MCLC report (2014) about MCLC is that the use of Kreyòl increased students’ interaction and active participation in classes. However most importantly, teachers noted that the use of Kreyòl has created a desire for students to gather information thus increasing their desire to read and to share knowledge with others through their writing. In this way, not only have reading and writing scores increased but the students have also developed a need for learning which may not have previously existed. Data has also shown that students fully immersed in a second language classroom may present passive characteristics, just listening and not engaging actively in classroom activities and discussions, whereas students who are able to use mother tongue feel free to express their thoughts (Benson, 2004). This inadvertently helps instructors to assess just what the students have learned as an ongoing activity.

Research such as that from the 2008 UNESCO report on Papua New Guinea’s use of vernacular languages also yields some significant data that demonstrate the importance of using mother tongue as an instructional tool (Bühmann & Trudell). Papua New Guinea has over 800 local languages that were used before the 1900s in the education of its people (Bühmann & Trudell, 2008). However, the government decided to use English as the language of instruction in order to create a national education system. Not long after this decision, “dissatisfaction with the relevance and evident lack of effectiveness of this system began to grow” (Bühmann & Trudell, 2008, p. 17).

As a result, a new program, in the 1970s, began in preschool using local languages to teach children how to read and count. As more frustrations with the national education system continued to arise, more programs using local languages were instituted in various other communities. Results demonstrated not only that student achievement increased, but also that students were more actively engaged in the learning process when local languages were used as instructional tools (Bühmann & Trudell, 2008).

Necessity for Research on Mother Tongue Instruction

The research on mother tongue instruction provides a background of information and experiences that served as the foundation for this research project. Reviewing the research on
mother tongue education provided this study with arguments for and evidence of improvements in learning and other aspect of the societal fabric due to its use.

**Educational Impact of Second Language as Instructional Tool**

According to Behaviorists, such as Skinner, and Interactionists, such as Bruner, Piaget and Vygotsky, children learn language through mimicry of what they see and hear in their environment and social interactions (Ormrod, 2003). In this view, using the language in which students begin to formulate their thoughts plays a significant role in their language acquisition and, in turn, in their learning processes. As such, requiring that a child learns in a second language the fundamental skills on which to build more complex attainments would probably pose a problem. Such thinking can help to explain some of the failures of the Haitian education system in which students are required to learn basic skills in French, a language that only few speak in Haiti.

**Economic Effect of Second Language as Instructional Tool**

Hebblethwaite’s (2012) article on the impact of the use of the French language on the underdevelopment of Haiti argued that the use of a language that ninety five percent of the population does not speak or understand as an instructional tool has a direct impact on Haiti’s economic standing. He also indicated that “Data on educational language policy compared internationally show that the use of a second language in schools correlates with high illiteracy rates and poverty” (p. 255). With the education system as it currently exists, students arriving to university do not master the French language enough to be successful; thus, adding year after year to the statistics of generations that are unable to occupy higher paying jobs and contributing to the already overwhelming rate of poverty in Haiti.

**Obstacles to Implementation of Models That Have Worked in Other Countries**

Disparate access to education is one of the main causes of poverty and inequality in the world (Degraff, 2013). Haiti is one of the countries that has some experience with this phenomenon. In order to solve the issue of educational inequality in this country, it is helpful to look into other countries’ involvement in addressing the marginalization of mother tongue speaking portions of their populations.
Governmental and Community Support

Researches on other models, such as that of Papua New Guinea (2008), that have been implemented in other countries provide a plethora of potential, cautionary pitfalls to avoid. One of the main issues discussed in most of the studies was the definite need for governmental support. The greatest impact of not having the support of the authorities is perhaps in the financial planning for the programs implemented. Without this support, many countries had to rely on external financial support, which always comes with an expiration date. The reality is that, in the short term, external financial support is very helpful. However, planning for any long-term, sustainable program requires the support of national resources, which cannot be had without the support of the government (Bühmann & Trudell, 2008).

In the case of the Bernard Reform in Haiti (1979), the lack of support from established educational agencies played a crucial role in the failure of the remodeling that was to make improvements to the education system. The instability that followed the institution of this reform did not help the situation; neither did the economic issues that have always existed in Haiti. However, there seems to have been an effort put towards not implementing the reform. From 1982 to 1987, it was even suspended using specious issues to support this decision (Dejean, 2010).

One of the issues discussed earlier was that insufficient teacher training also played a role in the failure of the Bernard Reform Programs such as the MIT-Haiti Initiative, provided support in terms of teacher training. In this program, university teachers participate in workshops that help them to become more at ease with using Creole as an instructional tool (Degraff, 2013). Teachers are also provided the opportunity to interact with software and other resources in Creole which they now have access to thanks to the MIT-Haiti Initiative. Such programs should be spread nationwide as to provide teachers with the skills and practice necessary to increase their comfort level with using more effective methods of teaching.

As far as community support is concerned, if the people in need of improvements in the realm of education do not believe that Creole is a viable tool, then any reform using this language as a tool for instruction will not be successful. The issue of language has always
been a point of contention in Haitian society and one that remains. There are many who claim that Creole is not a language and cannot be used effectively to educate Haitian students (DeGraff, 2014).

However, Haiti’s history and fascinating culture demonstrate the intrinsic role that Creole has played in the Haitian identity, unity, and self-worth (Buchanan, 1979). Others claim that the use of Creole in schools would aggravate an already poor situation and further deprive and exclude a large part of the population (Zefi, 2011; and Buchanan, 1979). Although, various studies, articles, such as that by Degraff (2014), and programs like MCLC have argued the viability of this language as an educational tool, much more needs to be done to inform the larger public about its potency for academic achievement. For instance, “Trouillot-Levy found that when middle-class parents are educated about the academic benefits of using a Creole language curriculum, some parents support it” (Dejean, 2010, p. 26).

Another obstacle lies in the flaws, as some may see it, in the Bernard Reform. One of the more pertinent issues with this reform, one that may have also played into the failure in implementing it, is the premise that students, although starting school in their native language, were expected to learn a foreign language and drop the mother tongue after the initial four years of schooling. In this view, Haitian students are expected to embrace a second language as theirs rather than use that second language as a tool for advanced educational studies. “The error is in believing that Haiti has the resources, educational or other, to produce on a mass level any outcome even approaching competence in French, in addition to competence in Creole” (Dejean, 2010, p. 13).

**Chapter 2 Summary**

There are issues that arise from the use of French as the tool for instruction in the Haitian classroom. Low-test scores, inability to grasp complex concepts, and socioeconomic injustices are just some of the problems that have been discussed. According to documents from the Commissioned study for EFA Global Monitoring Report of 2005, using a foreign language as the main tool for education is equivalent to requiring that learners complete a task without providing them with the tools or skills necessary to complete it effectively.
The analogy used in this report accurately depicts the perception of many Haitian students who feel that this compares with being held under water without having been taught to swim (Benson, 2004). Furthermore, this homology substantiates Vygotsky’s theory that asserts that language is acquired through social interaction. This view is crucial to understanding students’ failure in Haitian classrooms as the majority of Haitian students have the larger part of their social interactions in Kreyòl except for their schooling.

Of course, there are some researchers such as Dutcher (2004) who claim that French is the legitimate medium of instruction as it allows for wider communication and that it provides Kreyòl the support it needs as to not isolate the Haitian population. What seems to be lacking from this judgement is documenting the actual number of people who have mastered this language in Haiti. This view thus conjures ties to the historical context in which French came to be an official language in the country. This perspective also besieges the contemporary rationalizations for the continued use of French as the language for instruction in Haitian schools. Most importantly though, this view controverts language theories and research which assert that language plays a primordial role in the acquisition of knowledge and that the most effective and efficient tool to disseminate education is through the use of language that is most familiar, the mother tongue.

In terms of major contributions of significance to this research study, one criterion stands out: data is lacking when it comes to action research based on the use of Kreyòl as an educational tool in Haiti. Any contributing factor deducted from this literature review and used in this research project was based on work that has been applied elsewhere. As such, data from programs such as MCLC and the MIT-Haiti Initiative are the most compelling measurements enticing the need for this project and providing some quantitative evidence of the positive results of the use of the mother tongue in Haitian education. These programs speak to the impact that using Kreyòl as the medium of instruction has had on students. Data from MCLC demonstrated by “field research in elementary schools in Haiti where children in the early grades (1st through 3rd grades) achieve much higher reading scores (up to three times better) when instruction takes place systematically in Kreyòl” (Degraff, 2013, p. 3).

However, as with many other studies, both the MCLC and MIT-Haiti Initiative programs speak to some of the adverse perspicacity of implementing such language approaches. Some of the issues faced were the teachers’ ease with using the new language, the support received
from the community including apprehensions toward the mother tongue, governmental support, and access to resources in mother tongue language. In the case of Haiti, governmental support and attitude toward the Kreyòl language proved to be two major pitfalls when it came to implementing the Bernard Reform designed to introduce this language as a medium of dissemination in classes. In this stance, historical context still predominates how Haitians view Kreyòl and assures the vicious cycle that hinders the success of the majority of Haitian students even beyond school.

The problem of which language is used in the Haitian classroom not only affects the success of students but also denotes some of the foundational concerns that impact the overall functioning of the country. Language, being a core component of a nation’s culture, speaks to the importance it plays in the development and sustainability of its population. “The competitive market will tend to minimize communication through segregation, but if interaction is required, the cost will be borne by the minority” (Lang, 1986, p. 363). Although the majority of people in the Haitian population are monolingual, Kreyòl speakers, the preeminence of French renders them the minority, demonstrating the inconsequential part that Kreyòl plays in the development and sustainability of Haiti’s economy.

The undeniable bearing that language plays in all facets of the Haitian society determines not only individual success, but ultimately the success of the nation as a whole. This is certainly the case in Haiti. This “élite closure” seems impenetrable as the perceived superiority of French over Kreyòl is often internalized, from a tender age, by those very Kreyòl-speaking Haitians. The latter are effectively handicapped and excluded by the pressure to learn and speak French in schools and other venues that paradoxically make it largely impossible for them to do so successfully (Degraff, 2013, p. 3). The lack of mastery of advanced concepts, due to language barrier, leads to countless young men and women being unable to enter the workforce in employments that play a role in the evolution and progression of the nation.

Looking to the future points is the necessity for supplementary action research to demonstrate the positive impact of using mother tongue language, in this case Kreyòl, in classrooms. Providing conclusive data will supply the influence needed to impart change, at least in the arena of education. Thus, as a first step, data must continue to be gathered so that a clearer picture of the role of language on education may be recognized and further understood.
A follow up would entail the promulgation of this data to the larger public as this process will be met with ample resistance due to the historical context tied to the use of Kreyòl in the realm of education. The critical element will be to promote the use of Kreyòl as a means to improve the acquisition of concepts rather than as a means to replace French. Essentially, the goal would be to work towards a truly bilingual society in which Kreyòl would be the language in which students start to learn and that, upon mastery of foundational concepts, French would be introduced.

Citation